

GRAPE JUICE  
AS A  
THERAPEUTIC  
AGENT

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Grape juice as a therapeutic agent.

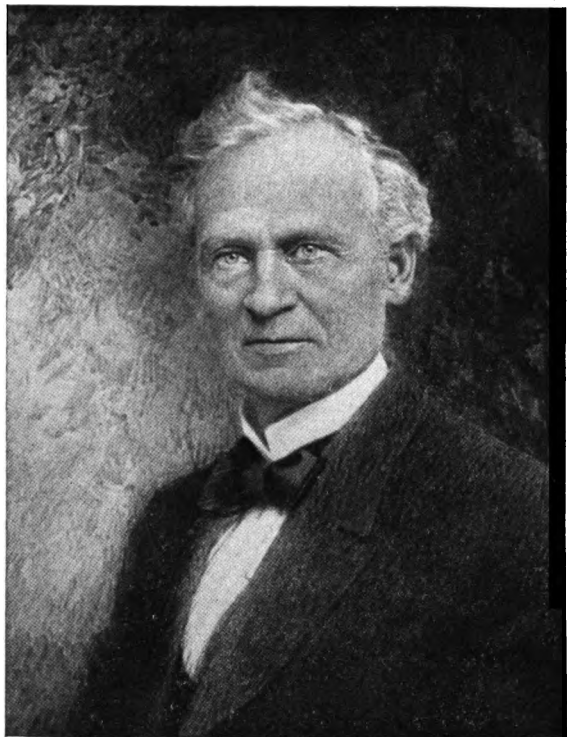


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**Dr. C. E. WELCH**  
*Founder and developer of the  
Grape Juice Industry*

GRAPE JUICE  
*as a*  
*THERAPEUTIC*  
*AGENT*



*The*  
WELCH GRAPE JUICE COMPANY  
*Westfield, NEW YORK*

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THE student of that greatest of all literature, the Bible, cannot but realize that the juice of the grape, referred to many times, did not always mean the fermented form, i. e., wine. The Persians, who were great grape growers, seem to have esteemed fresh grape juice as a refreshing and cooling drink in fever and during convalescence. Other nations knew and used "that liquor which, when expressed from the ripe grape, partaketh of the appearance and nature of the blood itself."

Before doctors were or dietetics became a science, grape juice was used by the laity as a drink and auxiliary nutrient in convalescence and debilitated states. The monks used it; so did those women who were wise in the ways of healing the sick, and described often as "herb

women” and not seldom by the more sinister term of “witches.”

During the Renaissance a medical writer quaintly expressed his belief that, “whilst it seemeth apparent and unquestionable that wine made from the grape or other fruit be not suitable for use in the sick, so long as the disease be athenic in character, yet hath experience shown the fresh and unfermented juice of the grape appeareth to possess sovereign virtues when given to drink in febrile states, in weakening after disease, yea in all whose strength hath waned.”

For many years the “grape cure” has been advocated by medical men for use in certain forms of disease and there was a time when patients made pilgrimages to the vineyard regions in southern Europe as zealously as to the mineral springs of Germany and elsewhere.

The chemical composition and nutrient

value of the grape, i.e., of its edible portion only, has been determined at the experiment stations of the U. S. Department of Agriculture to be, exclusive of skin and seeds:

Water.....	77.4%
Protein.....	1.3
Fat .....	1.6
Carbohydrates .....	19.2
Ash.....	0.5

The fuel, or caloric value per pound is 450 C. The amount of protein in grape juice (1.3%) compares very favorably with the protein in mother's milk (1.5%), hence grape juice may justly claim to possess some real nutrient, i.e., tissue building or tissue repairing properties. There is also a particularly useful amount of vegetable fat which there is every reason to assume can be easily assimilated. The main nutrient value of grape juice lies in its sugar content. "Starch and sugar are digested and sucked

up into the blood almost to the last particle," declares Hutchinson (2). The chief factor which determines the digestibility of any sugar is its chemical form. In order to be assimilated, sugar must be in the form of a monosaccharid, such as dextrose or levulose. The disaccharids, such as sucrose, must first be inverted, i.e., changed into dextrose or levulose before they can be assimilated. No digestive process is necessary, nature having attended to that in the vineyard during the process of ripening the grape, so that, as Yeo expresses it, "grape sugar is pre-digested carbohydrate."

The digestibility of sugar also is influenced by the degree of concentration of its solution. In strong solution, sugar is irritant, producing a reddening of mucous membranes, the production of much mucus and the secretion in the stomach of highly acid gastric juice. This

refers naturally to disaccharids. Invert sugar, of which grape sugar is a type, produces no such effects. To quote from Hutchinson (3), "It is evident from all this that, if we wish to avoid the risk of interfering with digestion by the use of sugar, care should be taken that the latter is not consumed in a concentrated form, but that the comparative dilution in which sugar occurs in natural foods such as fruits and milk is imitated."

It will be clear, therefore, how and why grape juice possesses valuable properties which make it useful for administration in febrile conditions, in convalescence, in debilitated states and all other conditions in which digestion is impaired, and it is important to get sugar into the blood (without taxing digestion, requiring inversion or increasing acidity.) Also the point suggests itself that grape juice is more valuable as an energy producer than

as mere food to be burned up for the mere production of only heat.

In this, grape juice resembles milk. Hutchinson points out that the mineral constituents of fruit are of valuable importance. These consist chiefly of potash combined with various fruit acids.

In grape juice, the fruit acid is chiefly tartaric. When burned up inside, this is converted into the corresponding carbonate and so helps to render the blood more alkaline and the urine less acid. Other salts of grape juice are sodium phosphate and chloride, magnesium and calcium phosphates, all of which are necessary for the proper integrity of the blood, body and nerve cells. It should also be remembered that fruit juice possesses valuable laxative properties. The value of grape juice in this particular has been demonstrated beyond question and forms an additional reason for its use in

conditions in which such action must be favored by the most rational means.

In invalid feeding, grape juice serves a most useful purpose, since it appeals to the eye, to the palate and is acceptable to the most delicate stomach.

A glass of grape juice taken upon retiring will often prevent insomnia and favor sound, refreshing sleep.

It is most useful for children or old people whose digestion is weak and appetite capricious. The same is true of cases in which prolonged and excessive mental effort and application produces "brain fag" and renders the use of alcoholic or narcotic stimulants a temptation. Grape juice quenches thirst promptly even when taken in small amount. It is an ideal refrigerant. Finally, grape juice makes an agreeable and efficient vehicle in which to administer medicine that is not decidedly alkaline in reaction. Its

ability to "cover" the taste of many disagreeable drugs should commend it very highly to the practical physician as well as to the trained nurse.

For medicinal as well as general beverage use, the red grape is held to be the most suitable. Of such, that variety known as the "Concord" is regarded as the best.

Mr. Ephraim W. Bull, born at Boston in 1805, is responsible for this variety. For upward of thirty-seven years Mr. Bull experimented, grew and tested some twenty-two thousand seedlings in his vineyard at Concord, Mass., before he finally succeeded in growing a new grape, which he exhibited before the Massachusetts Horticultural Society in 1853. The next year the "Concord Grape," named in honor of the town in which it originated, was placed upon the market and rapidly became popular.



The Concord has been found to thrive best in limited areas in certain Eastern states. In the Chautauqua-Erie Grape Belt, along the southern shore of Lake Erie, the Concord grape is grown in its greatest perfection. Here more Concord grapes are grown than all other varieties taken together.

If the name of "Concord" has become world known as that of the best grape from which to obtain grape juice, the name of "Welch's" has become equally famous as a guarantee of the best form of commercial grape juice obtainable.

The Concord grape was born of an idea. Welch's Grape Juice is the outcome of Dr. Welch's conviction that *the right kind* of unfermented grape juice should be used for ecclesiastical and medicinal purposes. For such use, in order to assure absolute freedom from

fermentation, one factor is indispensable—that of absolute cleanliness.

The manufacture of Welch's Grape Juice began in 1869, in a spick and span kitchen, which was both laboratory, factory and distributing plant. The Welch ideal, conviction and process have been preserved, maintained and developed by father, son and grandsons, growing from a humble beginning to one of the recognized permanent industries of America. Welch quality stands for and exemplifies infinitely more than a mere phrase or coined term.

Early in the season, Welch inspectors visit the vineyards from which the grapes are to be obtained, for the purpose of making contracts with the grape growers for October delivery. Other visits of inspection are made during summer and fall, to make sure that the vines are cultivated, sprayed and given such attention

as to produce only the highest quality of fruit. Only the finest Concord grapes that can be produced are accepted. These are known as "Welch Quality" Concord —a title conferred years ago by the growers themselves.

The grapes, when properly ripe, are carefully picked, packed in Welch crates of limited size to prevent crushing or heating, and placed upon wagons covered with canvas to protect from rain, sun or dirt. At the plants they are inspected and weighed, and washed as they are conveyed to the stemming machines. As the berries are removed from the stems they drop through pipes of aluminum to the stirring kettles, also of aluminum. In these kettles, the grapes are heated just sufficiently to free the rich color and exquisite aroma from the skin. Then they pass to huge hydraulic presses, where all the juice is pressed out, but

without crushing a single grape seed. The expressed grape juice passes through aluminum pipes to pasteurizing kettles, where it is heated just sufficiently to prevent fermentation, and then is filled into glass carboys, and allowed to remain for several months, to permit the "argols," or crude cream of tartar to settle. Then the grape juice is siphoned off, bottled, pasteurized and packed for shipment.

Welch's Grape Juice is the pure, unadulterated juice of choice Concord grapes, with nothing added and nothing taken away, containing all the medicinal and nutrient elements of the fruit, preserving the delicate aroma and taste put into the grape while it is in nature's laboratory. The doctor, who to a superlative degree realizes the value and importance of purity, uniformity, cleanliness and care in preparation of all products intended for medicine or dietetic

use, can appreciate the reasons why Welch's Grape Juice deserves his confidence and use.

It will require but very little consideration of these properties of grape juice to arrive at the conclusion that this agent meets several very practical indications which commend it to the physician's consideration. These are:

As a *beverage* in health, during fevers, convalescence, after operation, to quench thirst when large bulk of liquid is contraindicated, and in debilitated and adynamic states.

As an *adjuvant* in the treatment of constipation, abdominal plethora, in nephritis, renal congestion, edema, cardiac disease and scorbutic conditions in children and infants, hyperacidity, acidemia, anemia and allied conditions.

As a *tonic and appetizer*, especially in cases in which milk does not agree or is

distasteful, and especially in those cases which have become accustomed to the use of some alcoholic stimulant to arouse appetite and prepare for digestion of a meal.

Welch's Grape Juice is advertised to the medical and nursing profession in medical periodicals, not with an idea of increasing its use as a *beverage*, but to call the attention of professional men and women to its medicinal and therapeutic value and uses.

That Welch's Grape Juice is eminently suited to such use is evidenced by the fact that it is regularly and extensively used in homes and hospitals throughout the country.

Many conscientious and conservative physicians have, in private communications to The Welch Grape Juice Company, referred to the valuable and satisfactory results obtained by them with the Welch

product. For ethical reasons, obviously, such evidences of appreciation and testimony as to value are not repeated for advertising purposes.

Appreciating fully that it is the right and privilege of any physician to expect to be given an opportunity to judge for himself by actual trial of the value of any agent, The Welch Grape Juice Company will at any time be pleased to supply you with sufficient of their product to enable you to make a clinical test.

Your prescription for Welch's can be taken care of by almost any dealer.

As a matter of convenience and to facilitate the use of Welch's Grape Juice in the sick room or for invalids or convalescents, a number of suggestions for preparing Welch's Grape Juice are given on following pages.

## *For the Invalid's Tray*

### *Welch's Diluted*

Many people prefer Welch's Grape Juice diluted with water. Any good plain or charged water is acceptable, using at least half Welch's.

### *Welch's Grape Juice Hot*

While we say "for all purposes have the grape juice cold," yet many like it hot. Served this way, its ordinarily slight laxative effect is increased a little. When heating, use an agate or aluminum dish; never boil the grape juice. A delicious hot drink is made as follows: Heat Welch's Grape Juice, to which has been added an equal quantity of water; add a little lemon juice and several cloves; sweeten to taste.

### *Welch's and Castor Oil*

Children may be given castor oil without tasting it if the same method is followed as with olive oil, described on next page. In fact, they will welcome it because children universally like the



taste of Welch's. And Welch's is always acceptable to the stomach, no matter how delicate is its condition.

### *Olive Oil and Welch's Grape Juice*

The taste of olive oil may be pleasantly disguised for those who are obliged to take it as a medicine by pouring into an ordinary drinking glass an ounce of Welch's Grape Juice. The olive oil is then turned in gently on this, another ounce of Welch's added and the draft taken at once. The flavor of the grape juice comes first and last, and the taste of the oil is not noticeable.

### *Famous Welch Punch*

For a home beverage or for a light refreshment for special occasions try this unfermented grape punch: Juice of three lemons and one orange, one pint of Welch's Grape Juice, one quart water, one cup sugar. Serve cold.

### *Welch's Grape Lemonade*

Make a quart of lemonade, rather sweet; add a tumbler of Welch's Grape Juice. For a delicious yet easily made beverage, this recipe is unequaled.

### *Welch's and Egg*

Break an egg into a small tumbler, taking pains that the white and the yolk remain separate. Pour upon the egg enough Welch's Grape Juice almost to fill the glass. The contents of the tumbler should then be swallowed quickly, not sipped. This is a strengthening mixture, and may be taken two or three times a day by those who desire a maximum of nourishment with a minimum of strain upon the digestion. Semi-invalids and convalescents will find this an excellent method of securing nutrition.

### *Eggnog*

Beat separately the white and yolk of an egg. Stir a heaping teaspoonful of sugar and a tablespoonful of Welch's Grape Juice into the yolk; pour into tall glass, add the whipped white and fill glass with unskimmed milk.

### *Concord Parfait*

Whip one cupful of cream stiff, beat in one tablespoonful of powdered sugar and two tablespoonfuls of Welch's Grape Juice. Put in a small mold, pack in crushed ice and salt for three hours, then turn out on a flat dish.

### *Grapefruit and Welch's Grape Juice*

Have the grapefruit thoroughly chilled; cut each in half, remove center and seeds, loosen the pulp from the sides, put in one teaspoonful of fine sugar and one tablespoonful of Welch's. Keep grapefruit on ice for a couple of hours before using.

### *Welch's Grape Sherbet*

Welch's Grape Juice, one and one-half pints; water, two pints; sugar, one and one-half pounds; juice of two lemons. Freeze medium stiff. Take the whites of two eggs and two tablespoonfuls powdered sugar, beat thoroughly, then stir the froth into sherbet. Freeze as hard as possible; remove the dasher and stand aside for an hour or so. Be careful to pack well. The best mixture for freezing is four parts of ice to one part of coarse salt.

### *Grapefruit Jelly*

Soak a package of gelatine in half a cupful of cold water for long enough to soften it; pour upon it one cupful of sugar and stir into this one cupful of boiling water. Strain and set aside to cool, and just when it begins to stiffen a little,

but has not really formed, mix into it two cupfuls of the pulp and juice of grapefruit and one cupful of Welch's. This may be formed in different ways. It may be turned into a jelly mold, or baskets may be made of the peeling of the halved grapefruit, or the jelly may be cut into dice after forming in a shallow pan, and these cubes heaped into cocktail glasses. It is good eaten with or without cream.

### *Frosted Grape Jelly*

Soak half a box of gelatine in half a cup of cold water until soft; set this in an outer vessel of boiling water until the gelatine is entirely dissolved. Stir into it one cup of white sugar, still keeping the mixture in boiling water, and when all are well blended and smoothed, add two cupfuls of Welch's. Strain into a bowl upon the beaten whites of two eggs and turn into a mold. The whipped whites will rise to the surface of the jelly and produce a frosted effect. Leave the jelly on the ice or in a very cold place until firm and serve with whipped cream about it.

## Welch's Grapelade and other Welch Lades

The food value of choice, ripe grapes is such as to have suggested the advantage of supplying this in the convenient, agreeable, appetizing form, Grapelade.

Welch's Grapelade is as distinctive in its way as Welch's Grape Juice is in its class. An impression might be gained that Grapelade is a product made from the grape matter that remains, after the juice has been pressed out, in the manufacture of Welch's Grape Juice. Nothing could be further from the actual facts. Grapelade is a pure grape spread or marmalade, made from whole, carefully selected, ripe grapes and pure sugar. The entire grape matter is used with the

exception of the skins and seeds. The acid crystals are also extracted by a process patented and exclusively used by The Welch Grape Juice Company.

It was these troublesome crystals that had previously prevented the making of a successful grape preserve or spread. By inventing a process to eliminate them, The Welch Grape Juice Company raised the grape to its rightful position as one of the most popular and widely used fruits. Because of this same process, Grapelade is velvety smooth and can be used and handled without waste.

The same care is used in the selection and handling of the fresh fruit, and in the manufacture of Grapelade, as in the case of Welch's Grape Juice; and the physician or trained nurse can rely upon the purity, uniformity and efficiency of "the pure grape spread," which is rapidly coming into use in hospitals and private practice

as a dainty, nutritious and dependable dietetic adjuvant.

For hospital use, Grapelade is obtainable either in 15-ounce glass jars and 7-ounce tumblers, or in special No. 10 tins. These tins are prepared especially for hospitals and other institutions which must purchase in considerable quantities.

### *Other Welch Lades*

Following the immediate success of Grapelade, when it was first introduced a few years ago, there was a general demand for other fruit spreads of Welch Quality, prepared in similar form. The result of this demand is a full line of Welch Lades, which now includes Peachlade, Plumlade, Apple Butter, Cherrilade, Fruitlade, Strawberrylade, Blackberilade and Currantlade, as well as Grapelade. All of these are pure fruit spreads, prepared with great care to preserve the fine flavor of the

fruit. As in the making of Welch's Grape Juice, purity means much more than the commonly accepted meaning of the word. Purity in the Welch plants means quality and cleanliness and careful selection of the best fruits. It includes the elimination of skins and seeds so that the resulting product is 100 per cent edible.

Welch Lades are quite generally sold by grocers throughout the United States and may be recommended with every assurance that Welch standards of quality and purity will be rigidly maintained.













**DATE DUE**



